

**In The Claims:**

Please amend claims 1, 5, 11 – 14, 17, 20, 25, 32, 34, 42, 44, 49, 58, 64, 69, 73, 77 – 80 and 88, and cancel claims 4, 22 – 24, 41, 43, 45, 65 – 66, 72, 74 – 76, 87, 89 and 90 – 109 as follows:

1. (Currently Amended) A thermal insulated composite wall panel for use in insulated trailers, containers and insulated compartments comprising:
  - a. a first substantially gas impermeable liner panel;
  - b. a second substantially gas impermeable liner panel having,  
at least one gas impermeable barrier layer, and  
at least one structural polymer resin layer disposed coplanar to and bonded with said barrier layer, thereby forming a laminate liner panel; and
  - c. an insulated core layer intermediate said first and said second substantially gas impermeable liner panels,wherein said at least one structural polymer resin layer is fiber reinforced.
2. (Original) The thermal insulated composite wall panel of claim 1, wherein said polymer resin is polypropylene.
3. (Original) The thermal insulated composite wall panel of claim 1, wherein said at least one gas impermeable barrier layer is a metallized polyester film.
4. (Cancelled)
5. (Currently Amended) The thermal insulated composite wall panel of claim [4]1, wherein said fibers are glass.
6. (Original) The thermal insulated composite wall panel of claim 1, further comprising a first adhesive layer intermediate said at least one barrier layer and said at least one structural polymer resin layer.
7. (Original) The thermal insulated composite wall panel of claim 1, wherein said at least one gas impermeable barrier layer is a metallized polypropylene film.
8. (Original) The thermal insulated composite wall panel of claim 1, wherein said at least one gas impermeable barrier layer is a metal foil.
9. (Original) The thermal insulated composite wall panel of claim 1, further comprising a scrim layer.

10. (Original) The thermal insulated composite wall panel of claim 1, further comprising a surface film layer.
11. (Currently Amended) The thermal insulated composite wall panel of claim 913, said scrim layer further comprising glass fibers.
12. (Currently Amended) The thermal insulated composite wall panel of claim 913, ~~wherein said fibers are~~ said scrim layer further comprising polyester fibers.
13. (Currently Amended) ~~The thermal insulated composite wall panel of claim 9,~~ A thermal insulated composite wall panel for use in insulated trailers, containers and insulated compartments comprising:
- a. a first substantially gas impermeable liner panel;
  - b. a second substantially gas impermeable liner panel having,  
at least one gas impermeable barrier layer, and  
at least one structural polymer resin layer disposed coplanar to and  
bonded with said barrier layer, thereby forming a laminate liner panel;
  - c. an insulated core layer; and
  - d. a scrim layer, wherein said scrim layer forms a rough exterior surface.
14. (Currently Amended) ~~The thermal insulated composite wall panel of claim 10,~~ A thermal insulated composite wall panel for use in insulated trailers, containers and insulated compartments comprising:
- a. a first substantially gas impermeable liner panel;
  - b. a second substantially gas impermeable liner panel having,  
at least one gas impermeable barrier layer, and  
at least one structural polymer resin layer disposed coplanar to and  
bonded with said barrier layer, thereby forming a laminate liner panel;
  - c. an insulated core layer intermediate said first and said second  
substantially gas impermeable liner panels;
  - d. a surface film layer, wherein said surface film layer includes  
polypropylene.
15. (Original) The thermal insulated composite wall panel of claim 6, further comprising a second structural polymer resin layer.

16. (Original) The thermal insulated composite wall panel of claim 15, further comprising a second adhesive layer intermediate said at least one gas impermeable barrier layer and said second structural polymer resin layer.
17. (Currently Amended) ~~The thermal insulated composite wall panel of claim 1,~~ A thermal insulated composite wall panel for use in insulated trailers, containers and insulated compartments comprising:
- a. a first substantially gas impermeable liner panel;
  - b. a second substantially gas impermeable liner panel having,  
at least one gas impermeable barrier layer, and  
at least one structural polymer resin layer disposed coplanar to and  
bonded with said barrier layer, thereby forming a laminate liner panel; and
  - c. an insulated core layer;
- wherein said first substantially gas impermeable liner panel is formed from stainless steel.
18. (Original) The thermal insulated composite wall panel of claim 1, wherein said first substantially gas impermeable liner panel is formed from aluminum.
19. (Original) The thermal insulated composite wall panel of claim 1, wherein said first substantially gas impermeable liner panel is formed from the same laminate as said second substantially gas impermeable liner panel.
20. (Currently Amended) A method for forming a thermal insulated composite wall panel for use in insulated trailers, containers and insulated compartments comprising:
- a. providing a first substantially gas impermeable liner panel;
  - b. providing a second substantially gas impermeable liner panel having,  
at least one gas impermeable barrier layer, and  
at least one structural polymer resin layer disposed coplanar to and  
bonded with said barrier layer, thereby forming a laminate liner panel;
  - c. inserting an insulated core material between said first and said second substantially gas impermeable liner panels to form a thermal insulated composite wall panel;; and

d. spacing said first and said second substantially gas impermeable liner panels apart from each other to form a channel therebetween and inserting a thermoset core into said channel,

wherein said thermoset core is a gas impregnated polyurethane foam,

wherein the step of inserting includes blowing said polyurethane foam into said channel.

21. (Original) The method for forming a thermal insulated composite wall panel of claim 20, further comprising adhesively bonding said first and said second substantially gas impermeable liner panels to said insulated core material.
22. (Cancelled)
23. (Cancelled)
24. (Cancelled)
25. (Currently Amended) The method for forming a thermal insulated composite wall panel of claim ~~23~~20, wherein the step of inserting includes pouring said polyurethane foam into said channel.
26. (Original) The method for forming a thermal insulated composite wall panel of claim 20, wherein said at least one gas impermeable barrier layer is a metallized polyester film.
27. (Previously Presented) The method for forming a thermal insulated composite wall panel of claim 20, further comprising providing a first adhesive layer intermediate said at least one gas impermeable barrier layer and said at least one structural polymer resin layer.
28. (Original) The method for forming a thermal insulated composite wall panel of claim 27, wherein said at least one gas impermeable barrier layer is a metallized polypropylene film.
29. (Original) The method for forming a thermal insulated composite wall panel of claim 27, further comprising providing a second structural polymer resin layer.
30. (Original) The method for forming a thermal insulated composite wall panel of claim 29, further comprising providing a second adhesive layer intermediate said at least one gas impermeable barrier layer and said second structural polymer resin layer.

31. (Original) The method for forming a thermal insulated composite wall panel of claim 20, wherein said first substantially gas impermeable liner panel is formed from the same laminate as said second substantially gas impermeable liner panel.

32. (Currently Amended) ~~The method for forming a thermal insulated composite wall panel of claim 20,~~ A method for forming a thermal insulated composite wall panel for use in insulated trailers, containers and insulated compartments comprising:

- a. providing a first substantially gas impermeable liner panel;
- b. providing a second substantially gas impermeable liner panel having,  
at least one gas impermeable barrier layer, and  
at least one structural polymer resin layer disposed coplanar to  
and bonded with said barrier layer, thereby forming a laminate liner  
panel;
- c. inserting an insulated core material between said first and said second  
substantially gas impermeable liner panels to form a thermal insulated  
composite wall panel,

wherein said at least one structural polymer resin layer is fiber reinforced.

33. (Original) The method for forming a thermal insulated composite wall panel of claim 32, wherein said fibers are glass.

34. (Currently Amended) A cargo compartment pulled by a motorized vehicle, said cargo compartment comprising:

- a. a floor supported by the wheeled chassis;
- b. a roof; and
- c. a first side wall extending vertically between the roof and a side edge of the floor, wherein at least one of said first side wall, said floor and said roof is formed from at least one thermal insulated composite panel having
  - a first substantially gas impermeable liner panel,
  - a second substantially gas impermeable liner panel having
    - a substantially gas impermeable barrier layer, and
    - a first structural polymer resin layer disposed coplanar to and bonded with said substantially gas impermeable barrier layer, and

an insulated core layer intermediate said first and second substantially gas impermeable liner panels; and

d. a scrim layer disposed on a surface of said second liner panel adjacent to said insulated core layer, wherein said scrim layer forms a rough exterior surface.

35. (Original) The cargo compartment of claim 34, wherein said structural polymer resin layer includes polypropylene.

36. (Original) The cargo compartment of claim 34, wherein said substantially gas impermeable barrier layer is a metallized polyester film.

37. (Previously Presented) The cargo compartment of claim 34, wherein said second liner panel further comprises a first adhesive layer intermediate said substantially gas impermeable barrier layer and said first structural polymer resin layer.

38. (Original) The cargo compartment of claim 34, wherein said substantially gas impermeable barrier layer is a metallized polypropylene film.

39. (Original) The cargo compartment of claim 34, wherein said substantially gas impermeable barrier layer is a metal foil.

40. (Previously Presented) The cargo compartment of claim 39, wherein said second liner panel further comprises an adhesive film layer coplanar with and intermediate said metal foil barrier layer and said first structural polymer resin layer.

41. (Cancelled)

42. (Currently Amended) The cargo compartment of claim ~~41~~34, said scrim layer further comprising glass fibers.

43. (Cancelled)

44. (Currently Amended) ~~The cargo compartment of claim 34,~~ A cargo compartment pulled by a motorized vehicle, said cargo compartment comprising:

a. a floor supported by the wheeled chassis;

b. a roof;

c. a first side wall extending vertically between the roof and a side edge of the floor, wherein at least one of said first side wall, said floor and said roof is formed from at least one thermal insulated composite panel having

a first substantially gas impermeable liner panel,



a second substantially gas impermeable liner panel having  
a substantially gas impermeable barrier layer, and  
a first structural polymer resin layer disposed coplanar to and bonded  
with said substantially gas impermeable barrier layer, and  
an insulated core layer intermediate said first and second substantially  
gas impermeable liner panels,

wherein said second liner panel is disposed adjacent a cargo area enclosed by said cargo compartment and further comprises a surface film layer facing said cargo area,

wherein said surface film layer is formed of polypropylene.

45. (Cancelled)

46. (Original) The cargo compartment of claim 37, wherein said second liner panel further comprises a second structural polymer resin layer coplanar with said substantially gas impermeable barrier layer and disposed on an opposite side thereof from said first structural polymer resin layer.

47. (Original) The cargo compartment of claim 46, wherein said second structural polymer layer includes polypropylene.

48. (Original) The cargo compartment of claim 46, further comprising a second adhesive layer intermediate said substantially gas impermeable barrier layer and said second structural polymer resin layer.

49. (Currently Amended) ~~The cargo compartment of claim 34,~~ A cargo compartment pulled by a motorized vehicle, said cargo compartment comprising:

- a. a floor supported by the wheeled chassis;
- b. a roof;
- c. a first side wall extending vertically between the roof and a side edge of the floor, wherein at least one of said first side wall, said floor and said roof is formed from at least one thermal insulated composite panel having  
a first substantially gas impermeable liner panel,  
a second substantially gas impermeable liner panel having  
a substantially gas impermeable barrier layer, and

a first structural polymer resin layer disposed coplanar to and bonded  
with said substantially gas impermeable barrier layer, and  
an insulated core layer intermediate said first and second substantially  
gas impermeable liner panels,

wherein said first structural polymer resin layer is fiber reinforced.

50. (Original) The cargo compartment of claim 49, wherein said fibers are glass.
51. (Original) The cargo compartment of claim 34, wherein said first structural polymer resin layer includes a thermoset material.
52. (Previously Presented) The cargo compartment of claim 51, wherein said substantially gas impermeable barrier layer is a metal sprayed onto said thermoset material.
53. (Previously Presented) The cargo compartment of claim 51, wherein said substantially gas impermeable barrier layer is a metal sputtered onto said thermoset material.
54. (Previously Presented) The cargo compartment of claim 51, wherein said substantially gas impermeable barrier layer is a metallized film adhesively bonded to said thermoset material.
55. (Original) The cargo compartment of claim 34, wherein said first substantially gas impermeable liner panel is formed from the same construction as said second gas impermeable liner panel.
56. (Original) The cargo compartment of claim 34, wherein said insulated core is gas impregnated polymer foam.
57. (Original) The cargo compartment of claim 56, wherein said polymer is polyurethane.
58. (Currently Amended) A cargo trailer for use with a motorized vehicle, said cargo trailer comprising:
  - a. a plurality of wheels;
  - b. a floor supported by the wheels;
  - c. a roof; and
  - d. a pair of opposing side walls extending vertically between said roof and respective opposite side edges of said floor, wherein each of said side walls is formed from at least one thermal insulated composite panel having



a first substantially gas impermeable liner panel,  
a second substantially gas impermeable liner panel having  
a substantially gas impermeable barrier layer, and  
a first structural polymer resin layer disposed coplanar to and bonded  
with said substantially gas impermeable barrier layer, and  
an insulated core layer intermediate said first and second substantially  
gas impermeable liner panels,

wherein said second liner panel is disposed adjacent a cargo area enclosed by  
said cargo trailer and further comprises a surface film layer facing said cargo area,  
wherein said surface film layer comprises polypropylene.

59. (Previously Presented) The cargo trailer of claim 58, wherein said first structural polymer resin layer includes polypropylene.
60. (Original) The cargo trailer of claim 58, wherein said substantially gas impermeable barrier layer is a metallized polyester film.
61. (Previously Presented) The cargo trailer of claim 58, wherein said second liner panel further comprises a first adhesive layer intermediate said substantially gas impermeable barrier layer and said first structural polymer resin layer.
62. (Original) The cargo trailer of claim 58, wherein said substantially gas impermeable barrier layer is a metallized polypropylene film.
63. (Original) The cargo trailer of claim 58, wherein said substantially gas impermeable barrier layer is a metal foil.
64. (Currently Amended) ~~The cargo trailer of claim 58,~~ A cargo trailer for use with a motorized vehicle, said cargo trailer comprising:
- a. a plurality of wheels;
  - b. a floor supported by the wheels;
  - c. a roof; and
  - d. a pair of opposing side walls extending vertically between said roof and  
respective opposite side edges of said floor, wherein each of said side walls is  
formed from at least one thermal insulated composite panel having  
a first substantially gas impermeable liner panel,

a second substantially gas impermeable liner panel having  
a substantially gas impermeable barrier layer, and  
a first structural polymer resin layer disposed coplanar to and bonded  
with said substantially gas impermeable barrier layer, and  
an insulated core layer intermediate said first and second substantially  
gas impermeable liner panels,  
 wherein said second liner panel further comprises a scrim layer disposed on  
 a surface of said second liner panel adjacent to said insulated core layer,  
wherein said scrim layer forms a rough exterior surface.

65. (Cancelled)

66. (Cancelled)

67. (Original) The cargo trailer of claim 61, wherein said second liner panel further comprises a second structural polymer resin layer coplanar with said substantially gas impermeable barrier layer and disposed on an opposite side thereof from said first structural polymer resin layer.

68. (Original) The cargo trailer of claim 67, further comprising a second adhesive layer intermediate said substantially gas impermeable barrier layer and said second structural polymer resin layer.

69. (Currently Amended) ~~The cargo trailer of claim 58,~~ A cargo trailer for use with a motorized vehicle, said cargo trailer comprising:

- a. a plurality of wheels;
- b. a floor supported by the wheels;
- c. a roof; and
- d. a pair of opposing side walls extending vertically between said roof and  
respective opposite side edges of said floor, wherein each of said side walls is  
formed from at least one thermal insulated composite panel having  
a first substantially gas impermeable liner panel,  
a second substantially gas impermeable liner panel having  
a substantially gas impermeable barrier layer, and

a first structural polymer resin layer disposed coplanar to and bonded  
with said substantially gas impermeable barrier layer, and  
an insulated core layer intermediate said first and second substantially  
gas impermeable liner panels,

wherein said first structural polymer resin layer is fiber reinforced.

70. (Original) The cargo trailer of claim 69, wherein said fibers are glass.
71. (Original) The cargo trailer of claim 64, said scrim layer further comprising glass fibers.
72. (Cancelled)
73. (Currently Amended) A cargo trailer for use with a motorized vehicle, said cargo trailer comprising:
- a. a plurality of wheels;
  - b. a floor supported by the wheels;
  - c. a roof; and
  - d. a pair of opposing side walls extending vertically between said roof and respective opposite side edges of said floor, wherein each of said side walls is formed from at least one thermal insulated composite panel having
    - a first substantially gas impermeable liner panel,
    - a second substantially gas impermeable liner panel having
      - a substantially gas impermeable metallized polymer film layer, and
      - a first structural polypropylene resin layer disposed coplanar to and bonded with said substantially gas impermeable metallized polymer film layer, and
      - an insulated core layer intermediate said first and second substantially gas impermeable liner panels;
  - e. a first adhesive layer intermediate said substantially gas impermeable metallized polymer film layer and said first structural polypropylene resin layer;
  - f. a scrim layer disposed on a surface of said second liner panel adjacent to said insulated core layer;
  - g. a surface film layer facing said cargo area;

- h. a second structural polypropylene resin layer coplanar with said substantially gas impermeable metallized polymer film layer and disposed on an opposite side thereof from said first structural polypropylene resin layer and intermediate said scrim layer and said substantially gas impermeable metallized polymer film layer; and
  - i. a second adhesive layer is disposed intermediate said substantially gas impermeable metallized polymer film layer and said second structural polypropylene resin layer,  
wherein said first and second structural polymer resin layers are fiber reinforced.
74. (Cancelled)
75. (Cancelled)
76. (Cancelled)
77. (Currently Amended) The cargo trailer of claim ~~76~~ 73, wherein said fibers are glass.
78. (Currently Amended) The cargo trailer of claim ~~75~~ 73, said scrim layer further comprising glass fibers.
79. (Currently Amended) ~~The cargo trailer of claim 75,~~ A cargo trailer for use with a motorized vehicle, said cargo trailer comprising:
- a. a plurality of wheels;
  - b. a floor supported by the wheels;
  - c. a roof;
  - d. a pair of opposing side walls extending vertically between said roof and respective opposite side edges of said floor, wherein each of said side walls is formed from at least one thermal insulated composite panel having  
a first substantially gas impermeable liner panel,  
a second substantially gas impermeable liner panel having  
a substantially gas impermeable metallized polymer film layer, and  
a first structural polypropylene resin layer disposed coplanar to and bonded with said substantially gas impermeable metallized polymer film layer, and

- an insulated core layer intermediate said first and second substantially gas impermeable liner panels;
- e. a first adhesive layer intermediate said substantially gas impermeable metallized polymer film layer and said first structural polypropylene resin layer;
- f. a scrim layer disposed on a surface of said second liner panel adjacent to said insulated core layer;
- g. a surface film layer facing said cargo area;
- h. a second structural polypropylene resin layer coplanar with said substantially gas impermeable metallized polymer film layer and disposed on an opposite side thereof from said first structural polypropylene resin layer and intermediate said scrim layer and said substantially gas impermeable metallized polymer film layer; and
- i. a second adhesive layer is disposed intermediate said substantially gas impermeable metallized polymer film layer and said second structural polypropylene resin layer,

wherein said scrim layer forms a rough exterior surface.

80. (Currently Amended) An insulated compartment, said insulated compartment comprising:

- a. a floor;
- b. a roof; and
- c. a first side wall extending vertically between the roof and a side edge of the floor, wherein at least one of said first side wall, said floor and said roof is formed from at least one thermal insulated composite panel having
  - a first substantially gas impermeable liner panel,
  - a second substantially gas impermeable liner panel having
    - a substantially gas impermeable barrier layer, and
    - a first structural polymer resin layer disposed coplanar to and bonded with said substantially gas impermeable barrier layer, and
    - an insulated core layer intermediate said first and second substantially gas impermeable liner panels,

wherein the second liner panel further comprises a scrim layer disposed on a surface of said second liner panel adjacent to said insulated core layer, wherein said scrim layer forms a rough exterior surface.

81. (Previously Presented) The cargo compartment of claim 80, wherein said first structural polymer resin layer includes polypropylene.
82. (Original) The cargo compartment of claim 80, wherein said substantially gas impermeable barrier layer is a metallized polyester film.
83. (Previously Presented) The cargo compartment of claim 80, wherein said second liner panel further comprises a first adhesive layer intermediate said substantially gas impermeable barrier layer and said first structural polymer resin layer.
84. (Original) The cargo compartment of claim 80, wherein said substantially gas impermeable barrier layer is a metallized polypropylene film.
85. (Original) The cargo compartment of claim 80, wherein said substantially gas impermeable barrier layer is a metal foil.
86. (Previously Presented) The cargo compartment of claim 85, wherein said second liner panel further comprises an adhesive layer coplanar with and intermediate said metal foil barrier layer and said first structural polymer resin layer.
87. (Cancelled)
88. (Currently Amended) The cargo compartment of claim ~~87~~ 80, said scrim layer further comprising polyester fibers.
89. (Cancelled)
90. (Cancelled)
91. (Cancelled)
92. (Cancelled)
93. (Cancelled)
94. (Cancelled)
95. (Cancelled)
96. (Cancelled)
97. (Cancelled)
98. (Cancelled)



- 99. (Cancelled)
- 100. (Cancelled)
- 101. (Cancelled)
- 102. (Cancelled)
- 103. (Cancelled)
- 104. (Cancelled)
- 105. (Cancelled)
- 106. (Cancelled)
- 107. (Cancelled)
- 108. (Cancelled)
- 109. (Cancelled)

Please add the following new claims:

110. (New) A thermal insulated composite wall panel for use in insulated trailers, containers and insulated compartments comprising:
  - a. a first substantially gas impermeable liner panel;
  - b. a second substantially gas impermeable liner panel having,
    - at least one gas impermeable barrier layer, and
    - at least one structural polymer resin layer disposed coplanar to and bonded with said barrier layer, thereby forming a laminate liner panel, said at least one structural polymer resin layer having a secondary material imbedded therein for reinforcing said at least one structural polymer resin layer and providing a bonding surface thereon; and
  - c. an insulated core layer intermediate said first and said second substantially gas impermeable liner panels.
111. (New) The thermal insulated composite wall panel of claim 110, wherein said polymer resin is polypropylene.
112. (New) The thermal insulated composite wall panel of claim 110, wherein said at least one gas impermeable barrier layer is a metallized polyester film.
113. (New) The thermal insulated composite wall panel of claim 110, wherein said secondary material is fibrous.
114. (New) The thermal insulated composite wall panel of claim 113, wherein said fibers are glass.
115. (New) The thermal insulated composite wall panel of claim 110, further comprising a first adhesive layer intermediate said at least one barrier layer and said at least one structural polymer resin layer.
116. (New) The thermal insulated composite wall panel of claim 110, further comprising a scrim layer.
117. (New) The thermal insulated composite wall panel of claim 110, further comprising a surface film layer.

118. (New) The thermal insulated composite wall panel of claim 110, wherein said second substantially gas impermeable liner panel bonds directly to said insulated core layer by said imbedded secondary material.
119. (New) A thermal insulated composite wall panel for use in insulated trailers, containers and insulated compartments comprising:
- a. a first substantially gas impermeable liner panel;
  - b. a second substantially gas impermeable liner panel having,
    - at least one gas impermeable barrier layer, and
    - at least one structural polymer resin layer disposed coplanar to and bonded with said barrier layer, thereby forming a laminate liner panel; and
  - c. an insulated core layer intermediate said first and said second substantially gas impermeable liner panels,
- wherein said at least one structural polymer resin layer defines a surface that is adapted to directly bond to said insulated core layer.
120. (New) The thermal insulated composite wall panel of claim 119, wherein said polymer resin is polypropylene.
121. (New) The thermal insulated composite wall panel of claim 119, wherein said at least one gas impermeable barrier layer is a metallized polyester film.
122. (New) The thermal insulated composite wall panel of claim 119, wherein said at least one structural polymer resin layer further includes a secondary material imbedded therein.
123. (New) The thermal insulated composite wall panel of claim 122, wherein said secondary material is glass fibers.